

0250

OIEP

RAW SEQUENCE LISTING

DATE: 05/31/2000

PATENT APPLICATION: US/09/576,989

TIME: 17:07:55

Input Set : A:\60294356.txt

Output Set: N:\CRF3\05312000\I576989.raw

ENTERED

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3 <110> APPLICANT: Rice III, Charles
4   Blight, Keril
6 <120> TITLE OF INVENTION: HCV Variants
8 <130> FILE REFERENCE: 6029-4356
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/576,989
C--> 11 <141> CURRENT FILING DATE: 2000-05-23
13 <160> NUMBER OF SEQ ID NOS: 21
15 <170> SOFTWARE: PatentIn Ver. 2.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 21
19 <212> TYPE: DNA
20 <213> ORGANISM: Hepatitis C virus
22 <400> SEQUENCE: 1
23 ggcgcacactc caccatagat c
25 <210> SEQ ID NO: 2
26 <211> LENGTH: 99
27 <212> TYPE: DNA
28 <213> ORGANISM: Hepatitis C virus
30 <400> SEQUENCE: 2
31 tgggtggctcc atcttagccc tagtcacggc tagctgtgaa aggtccgtga gccgcatgac 60
32 tgcagagagt gctgatactg gcctctctgc tgatcatgt 99
34 <210> SEQ ID NO: 3
35 <211> LENGTH: 1985
36 <212> TYPE: PRT
37 <213> ORGANISM: Hepatitis C virus
39 <400> SEQUENCE: 3
40 Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly
41 1 5 10 15
43 Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Arg Asn Gln Val Glu Gly
44 20 25 30
46 Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys
47 35 40 45
49 Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
50 50 55 60
52 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
53 65 70 75 80
55 Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr
56 85 90 95
58 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
59 100 105 110
61 Asp Val Ile Pro Val Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
62 115 120 125
64 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
65 130 135 140
67 Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys
68 145 150 155 160
70 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met

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71          165          170          175
73 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
74          180          185          190
76 Ala Val Pro Gln Thr Phe Gln Val Ala His Leu His Ala Pro Thr Gly
77          195          200          205
79 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr
80          210          215          220
82 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly
83 225          230          235          240
85 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly
86          245          250          255
88 Val Arg Thr Ile Thr Thr Gly Ala Pro Ile Thr Tyr Ser Thr Tyr Gly
89          260          265          270
91 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile
92          275          280          285
94 Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile
95          290          295          300
97 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val
98 305          310          315          320
100 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn
101          325          330          335
103 Ile Glu Glu Val Ala Leu Ser Ser Thr Gly Glu Ile Pro Phe Tyr Gly
104          340          345          350
106 Lys Ala Ile Pro Ile Glu Thr Ile Lys Gly Gly Arg His Leu Ile Phe
107          355          360          365
109 Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly
110          370          375          380
112 Leu Gly Leu Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val
113 385          390          395          400
115 Ile Pro Thr Ser Gly Asp Val Ile Val Val Ala Thr Asp Ala Leu Met
116          405          410          415
118 Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys
119          420          425          430
121 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu
122          435          440          445
124 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly
125          450          455          460
127 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly
128 465          470          475          480
130 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr
131          485          490          495
133 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val
134          500          505          510
136 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp
137          515          520          525
139 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp
140          530          535          540
142 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr
143 545          550          555          560

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145 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro
146      565      570      575
148 Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr
149      580      585      590
151 Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn
152      595      600      605
154 Glu Val Thr Thr Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met
155      610      615      620
157 Ser Ala Asp Leu Glu Val Val Thr Ser Thr Trp Val Leu Val Gly Gly
158 625      630      635      640
160 Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Thr Thr Gly Ser Val Val
161      645      650      655
163 Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp
164      660      665      670
166 Arg Glu Val Leu Tyr Arg Glu Phe Asp Glu Met Glu Glu Cys Ala Ser
167      675      680      685
169 His Leu Pro Tyr Ile Glu Gln Gly Met Gln Leu Ala Glu Gln Phe Lys
170      690      695      700
172 Gln Lys Ala Ile Gly Leu Leu Gln Thr Ala Thr Lys Gln Ala Glu Ala
173 705      710      715      720
175 Ala Ala Pro Val Val Glu Ser Lys Trp Arg Thr Leu Glu Ala Phe Trp
176      725      730      735
178 Ala Lys His Met Trp Asn Phe Ile Ser Gly Ile Gln Tyr Leu Ala Gly
179      740      745      750
181 Leu Ser Thr Leu Pro Gly Asn Pro Ala Ile Ala Ser Leu Met Ala Phe
182      755      760      765
184 Thr Ala Ser Ile Thr Ser Pro Leu Thr Thr Gln His Thr Leu Leu Phe
185      770      775      780
187 Asn Ile Leu Gly Gly Trp Val Ala Ala Gln Leu Ala Pro Pro Ser Ala
188 785      790      795      800
190 Ala Ser Ala Phe Val Gly Ala Gly Ile Ala Gly Ala Ala Val Gly Ser
191      805      810      815
193 Ile Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala
194      820      825      830
196 Gly Val Ala Gly Ala Leu Val Ala Phe Lys Val Met Ser Gly Glu Met
197      835      840      845
199 Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro
200      850      855      860
202 Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His
203 865      870      875      880
205 Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala
206      885      890      895
208 Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro Glu
209      900      905      910
211 Ser Asp Ala Ala Ala Arg Val Thr Gln Ile Leu Ser Ser Leu Thr Ile
212      915      920      925
214 Thr Gln Leu Leu Lys Arg Leu His Gln Trp Ile Asn Glu Asp Cys Ser
215      930      935      940
217 Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys

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218 945          950          955          960
220 Thr Val Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro
221          965          970          975
223 Arg Leu Pro Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly
224          980          985          990
226 Val Trp Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala
227          995          1000          1005
229 Gln Ile Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro
230          1010          1015          1020
232 Arg Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr
233          1025          1030          1035          1040
235 Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala
236          1045          1050          1055
238 Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly
239          1060          1065          1070
241 Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro
242          1075          1080          1085
244 Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg
245          1090          1095          1100
247 Leu His Arg Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val
248          1105          1110          1115          1120
250 Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro
251          1125          1130          1135
253 Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp
254          1140          1145          1150
256 Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly
257          1155          1160          1165
259 Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro
260          1170          1175          1180
262 Ser Leu Lys Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp
263          1185          1190          1195          1200
265 Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile
266          1205          1210          1215
268 Thr Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu
269          1220          1225          1230
271 Pro Leu Gln Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu
272          1235          1240          1245
274 Ile Leu Arg Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala
275          1250          1255          1260
277 Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp
278          1265          1270          1275          1280
280 Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala
281          1285          1290          1295
283 Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu
284          1300          1305          1310
286 Ser Thr Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly
287          1315          1320          1325
289 Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro
290          1330          1335          1340

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292 Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr
293 1345 1350 1355 1360
295 Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser
296 1365 1370 1375
298 Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val
299 1380 1385 1390
301 Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys
302 1395 1400 1405
304 Ala Ala Glu Glu Thr Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu
305 1410 1415 1420
307 Leu Arg His His Asn Leu Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser
308 1425 1430 1435 1440
310 Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp
311 1445 1450 1455
313 His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val
314 1460 1465 1470
316 Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro
317 1475 1480 1485
319 His Ser Ala Arg Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn
320 1490 1495 1500
322 Leu Ser Ser Lys Ala Val Asn His Ile Arg Ser Val Trp Lys Asp Leu
323 1505 1510 1515 1520
325 Leu Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn
326 1525 1530 1535
328 Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg
329 1540 1545 1550
331 Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala
332 1555 1560 1565
334 Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser
335 1570 1575 1580
337 Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn
338 1585 1590 1595 1600
340 Ala Trp Lys Ala Lys Lys Cys Pro Met Gly Phe Ala Tyr Asp Thr Arg
341 1605 1610 1615
343 Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser
344 1620 1625 1630
346 Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg
347 1635 1640 1645
349 Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys
350 1650 1655 1660
352 Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr
353 1665 1670 1675 1680
355 Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala
356 1685 1690 1695
358 Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp
359 1700 1705 1710
361 Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Glu Ala
362 1715 1720 1725
364 Ser Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro

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VERIFICATION SUMMARY DATE: 05/31/2000
PATENT APPLICATION: US/09/576,989 TIME: 17:07:56

Input Set : A:\60294356.txt
Output Set: N:\CRF3\05312000\I576989.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date